

SEQUENCE LISTING

<110> Yang, Shumin
 McCall, Catherine A.
 Weber, Eric R.

<120> CANINE AND FELINE IMMUNOREGULATORY PROTEINS, NUCLEIC
 ACID MOLECULES, AND USES THEREOF

<130> IM-2-C1-C1

<140> not yet assigned

<141> 2001-01-01

<150> 09 322,409

<151> 1999-05-28

<150> 09 087,306

<151> 1998-05-29

<160> 21

<170> PatentIn Ver. 2.1

<210> 1

<211> 16

<212> DNA

<213> Artificial Sequence

<220>

<221> Description of Artificial Sequence: Synthetic
 Primer

<400> 1

atgacattc attacc

16

<210> 1

<211> 42

<212> DNA

<213> Artificial Sequence

<220>

<221> Description of Artificial Sequence: Synthetic

0210+ 2
 0211+ 17
 0212+ DNA
 0213+ Artificial Sequence

0220+
 0221+ Description of Artificial Sequence: Synthetic
 Primer

0400+ 1
 atgacgtttk sttggscctc attctca 27

0210+ 4
 0211+ 610
 0212+ DNA
 0213+ Canis familiaris

0220+
 0221+ CDS
 0222+ (29)..(430)

0400+ 4
 caaggcacaaac aatgaacatt tcagagct atg aga atg ctt ctg aat ttg agt 52
 Met Arg Met Leu Leu Asn Leu Ser
 1 5

ttg cta gct ctt ggg gct gcc tat gtt tct gcc ttt gct gta gaa aat 100
 Leu Leu Ala Leu Gly Ala Ala Tyr Val Ser Ala Phe Ala Val Glu Asn
 10 15 20

ccc atg aat aga ctg ctg gca gag acc ttg aca ctg ctc tcc act cat 148
 Pro Met Asn Arg Leu Val Ala Glu Thr Leu Thr Leu Leu Ser Thr His
 3 15 48

cca act tag ctg ata gcc gat agg aac ctg atg att cct act cct gaa 196
 Arg Thr Trp Leu Ile Gly Asp Gly Asn Leu Met Ile Pro Thr Pro Glu
 45 50 55

aat aaa aat cac caa ctg tcc att aaa gaa ctt ttt gaa ggt ata gac 244
 Asn Lys Asn His Gln Leu Cys Ile Lys Glu Val Phe Gln Gly Ile Asp

caa aac ttg ttt tta ata aaa gaa cac ata gag cgc caa aaa aaa agg 340
 Gln Asn Leu Ser Leu Ile Lys Glu His Ile Glu Arg Gln Lys Lys Arg
 90 95 100

tgt gca gga gaa aga tgg aga gtg aca aag ttc cta gag tac ctg caa 388
 Cys Ala Gly Glu Arg Trp Arg Val Thr Lys Phe Leu Asp Tyr Leu Gln
 105 110 115 120

gta ttt ctt ggt gta ata aac acc gag tgg aca cgg gaa agt 420
 Val Phe Leu Gly Val Ile Asn Thr Glu Trp Thr Pro Glu Ser
 125 130

cgagaacaaa cgggtttatt gtagtggaag attttggaga agaattggttt ttgggggatg 490

agaatgaggg ccaaccaaca gtagggactt aatggccagt ataactaagc ttcagagaca 550

aagtaaatat ttcaggcatc ctactacttt atcacttcac acagatgaaa tatatttgag 610

<210> 5

<211> 134

<212> PRT

<213> Canis familiaris

<400> 5

Met Arg Met Leu Leu Asn Leu Ser Leu Leu Ala Leu Gly Ala Ala Tyr
 1 5 10 15

Val Ser Ala Phe Ala Val Glu Asn Pro Met Asn Arg Leu Val Ala Glu
 20 25 30

Thr Leu Thr Leu Leu Ser Thr His Arg Thr Trp Leu Ile Gly Asp Gly
 35 40 45

Asn Leu Met Ile Pro Thr Pro Gln Asn Lys Asn His Gln Leu Cys Ile
 50 55 60

Lys Glu Val Phe Gln Gly Ile Asp Thr Leu Lys Asn Gln Thr Ala His
 65 70 75 80

Gly Glu Ala Val Asp Lys Leu Phe Gln Asn Leu Ser Leu Ile Lys Glu
 85 90 95

Glu Trp Thr Pro Glu Ser

130

<210> 6

<211> 610

<212> DNA

<213> Canis familiaris

<400> 6

ctcaaatata ttccatctgt gtgaagtgat aaagtagtag gatgcctgaa atattttactt 50
 tggctctgaa gcttagttat actggccatt aagtcctac tgttggttgg ccttcattct 120
 catcgcacaa aaaccattct cctccaaaat ctccactac aataagccgg ttgtttctca 130
 actthccggg gtccactcgg tgtttattac aaccaagaaat acttgcaggt agtctaggaa 240
 cttttcact ctccatcttt cctctgcaca cctttttttt tggcgctcta tgtgttcttt 300
 tattaaagac aagttctgga atagtttata cacagcctcc ccttggggcag ttgtgttctt 360
 caatctgtct ataccctgaa aaaattcttt aatgcacagt tggtgatttt tattttcagg 420
 agtaggaatc atcaggttcc catcgccatc cagccaaagt cgatgagtgg agagcagtggt 480
 caagttctct gccaccagtc tattcatggg atttcttaca gcaaaggcag aaacataggc 540
 agccccaaga gctagcaaac tcaaatccag aagcattctc atagctctga aatgttcagt 600
 gtttcccttg 610

<210> 7

<211> 402

<212> DNA

<213> Canis familiaris

<400> 7

atgagaatgc ttctgaattt gagtttgcta gctcttgggg ctgcctatgt ttctgccttt 50
 gctctagaaa atcccatgaa tagactggtg ccagagacct tgacactcct ctcactcat 120
 ctacttcttc tcatatctca tcttactctt atcttctc ctctctgaaa taaatctac 130
 caactctgga taaagaact ttttcaaggt atctacat taaagaacca aactccctac 240
 ggttggcttc tcatataact attctcaaac tttctttaa taaagaacca catctatctc 300
 ctctctctaa gctctgcttc aaaaatctcc aaatcagaa acttcttada ctactctaaa 360
 ctattctctc gtgtaataaa caccgagtggt acaccggaaa gt 400

<210> 8

<211> 400

<212> DNA

<213> Canis familiaris

<400> 8

atgagaatgc ttctgaattt gagtttgcta gctcttgggg ctgcctatgt ttctgccttt 50

ctttgtact ctccatcttt ctctgcaca cctttttttt tggcgctcta tctgtttttt 120
tattaaagac aagtttttga atagtttate cacagcctcc cctgtgggcag tttagttttt 180
caat tctgtt ataccctgaa aaactttctt aatgcacagt tgggtgatttt tattttcagg 240
agtaagaate atcaggttcc catcgccctat cagccaagtt ccatgagtggt agagcagtggt 300
caagttcttt gccaccagtc ttttcattggg attttctaca gaaaaggcag aaacataggg 360
agcccaaga gctagcaaac tcaaattcag aagcattctc at 400

<210> 9

<211> 345

<212> DNA

<213> Canis familiaris

<220>

<221> CDS

<222> (1)..(345)

<400> 9

ttt cct gta gaa aat ccc atg aat aga ctg gtg gaa gag acc ttg aca 48
Phe Ala Val Glu Asn Pro Met Asn Arg Leu Val Ala Glu Thr Leu Thr
1 5 10 15

ctg ctc tcc act cat cga act tgg ctg ata ggc gat ggg aac ctg atg 96
Leu Leu Ser Thr His Arg Thr Trp Leu Ile Gly Asp Gly Asn Leu Met
20 25 30

att cct act cct gaa aat aaa aat cac caa ctg tgc att aaa gaa gtt 144
Ile Pro Thr Pro Glu Asn Lys Asn His Gln Leu Cys Ile Lys Glu Val
35 40 45

ttt cag ggt ata gac aca ttg aag aac caa act gcc cac ggg gag gct 192
Phe Gln Gly Ile Asp Thr Leu Lys Asn Gln Thr Ala His Gly Glu Ala
50 55 60

ctc cat gaa cta ttc caa aac ttc tct tta ata aac caa cac ata cag 240
Val Asn Lys Leu Phe Gln Asn Leu Ser Leu Ile Lys Glu His Ile Glu
65 70 75

cac caa aac aaa aag tgt gca gga gaa aag tgg aca ctg aca aag ttc 288
Arg Gln Lys Lys Arg Cys Ala Gly Glu Arg Trp Arg Val Thr Lys Phe
85 90 95

ctc cat tct ttc caa cta ttc cta ttc ttc ttc ttc ttc ttc ttc ttc 324
Val Asn Lys Lys Arg Cys Ala Gly Glu Arg Trp Arg Val Thr Lys Phe
100 105 110

115

<210> 10

<211> 115

<212> PRT

<213> Canis familiaris

<400> 10

Phe Ala Val Glu Asn Pro Met Asn Arg Leu Val Ala Glu Thr Leu Thr
1 5 10 15

Leu Leu Ser Thr His Arg Thr Trp Leu Ile Gly Asp Gly Asn Leu Met
20 25 30

Ile Pro Thr Pro Glu Asn Lys Asn His Gln Leu Cys Ile Lys Glu Val
35 40 45

Phe Gln Gly Ile Asp Thr Leu Lys Asn Gln Thr Ala His Gly Glu Ala
50 55 60

Val Asp Lys Leu Phe Gln Asn Leu Ser Leu Ile Lys Glu His Ile Glu
65 70 75 80

Arg Gln Lys Lys Arg Cys Ala Gly Glu Arg Trp Arg Val Thr Lys Phe
85 90 95

Leu Asp Tyr Leu Gln Val Phe Leu Gly Val Ile Asn Thr Glu Trp Thr
100 105 110

Pro Glu Ser
115

<210> 11

<211> 148

<212> DNA

<213> Canis familiaris

<400> 11

acattccggg cccactcgg tgcattattac accaagaagt acttgcaggc agtctaggaa 60
ctttgcact cccactcttt cccctgcaca cctttttttt tggcgcctct tctgtctctt 120

<210> 12

<211> 35

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
Primer

<400> 12

gggcgcgaga aaagatttgc ttagaaaaat cccatg

36

<210> 13

<211> 32

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
Primer

<400> 13

cccgccggcgcg ctcaactttc cgggtgccac tc

32

<210> 14

<211> 29

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
Primer

<400> 14

accccaaacac tgaacatttc

29

<210> 15

<211> 30

<212> DNA

<213> Artificial Sequence

<400> 15

tttc'aaaat cttccactac

20

<210> 15

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
Primer

<400> 16

t'aaaggagg ctataaatc

20

<210> 17

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
Primer

<400> 17

ttatagtc'aa gggcatatcc

20

<210> 18

<211> 1658

<212> DNA

<213> *Canis familiaris*

<220>

<221> Intron

<222> (171)..(373)

<220>

<221> Intron

<222> (477)..(1175)


```

tctacctaac ctcagaatttt cctcgttatag ttctagctgg taatttttatt ctatttagac 720
taatgatate acatttttttaa catttttaata tgaccatgac atactccaga tglatatgat 780
tccatttagag ttaaaaaatca tttaaataatg tgggaagtgc tattaatata ggacttccact 840
gtataattttt atgtctcactg accataatcc taaaaatata accccaagtt gttagtactt 900
tcagaaaaaac gttgaggtga ggaagaccac cgcacagaggt gaatggagcc taggaagtat 960
ccttgaccca atatgggaatt cttttggaaa gatttcctga caccagggcc ttgagatgg 1020
agaactgaca acatcaaaaaa agggcctgat ccaattgctt aatggattct acttaatat 1080
gtagagccat tcttaacacc attcctaata ttcaataagca cataatttcc acccgccac 1140
ataaaaaaaa aatagataaa attaaatcat ccaatgtta actgatactt tatagcttaa 1200
aatatgaaac tgattccatgt aatcatttta tcaaatcata atttaactta catttttatt 1260
ttcaggagta ggaatccatca ggttctgaaa aagaaaggaa acaacattca tttttaatgt 1320
attgtaaggt tcataacttt taatataatt cttctgagta acatgggtac ccatttatat 1380
attattaaca ctcattactt cattattgat aatggatctt taaaaactag ccaccaccac 1440
caattaccac tgcattttta agactgtagg aatcaaaaaa aaaattaccc catcgccat 1500
cagccaagtt cgatgagtg gagcagctgt caaggtctct gccaccagtc tattcatggg 1560
attttctaca gcaaaggcag aaacataggt agccccaaga gctagcaaac tcaatttcag 1620
aagcattgtc atagctctga aatgttcagt gtttgcct 1680

```

<210> 20

<211> 15

<212> PPT

<213> Artificial Sequence

<220>

<221> Description of Artificial Sequence: N-terminal
peptide

<400> 20

Phe Ala Val Glu Asn Pro Met Asn Arg Leu Val Ala Glu Thr Leu

1

5

10

15

<210> 21

<211> 21

<212> DNA

<213> Gene families

<400> 21

```

aggraaagac tgaacatttc agagctatga gaatgcttct gaatttgaat ttgctagctc 60
ttggggctgc ctatgtttct gcaattgctg tagaaaatcc catgaataga ctgggtggcag 120
agaccttacc actcctctcc actcaaccac ctgcctcat agggcatggg gtaatttct 180
tttgaattcc tcaattcttt aaaaacacac gtaatttct ggtgctgctt attttttaa 240
gtcccttat caatcttacc ctatgctctt tttaattt ctatctctg cctctctct 300

```

gtgtgcagga gaaagatgga gagtgacaaa gttcctagac tacctgcaag tatttcttgg 600
tqtaataaac accgagtgga caccggaaaag ttgagaacaa accggcttat tgtagtggaa 660
gattttggag a 671